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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,793	08/17/2001	Chew Kai Hwa	1085-029/ddh	5435

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EXAMINER

IP, SIKYIN

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 01/16/03
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-16 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-16 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Applicant Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-4, 6-9, and 11-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 9709455 (abstract, alloys c and f-h).

4. Claims 1-4, 6-9, and 11-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USP 5538686 to Chen et al (col. 1, line 60 to col. 2, line 37), JP 10314980 (abstract), JP 2000141078 (abstract), WO 2000018536 (abstract), or JP 11221694 (abstract).

5. The cited reference(s) disclose(s) the features including the claimed Pb-free Sn based solder. The difference between the reference(s) and the claims are as follows:

Cited references' solder alloys do not disclose P element. But, P element content in instant claims 2, 3, 7, 8, and 12 reads on zero which suggests said P element could be eliminated from the claimed solder alloy. Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the subject matter disclosed by the reference. Overlapping ranges have been held to be a prima facie case of obviousness, See MPEP § 2112.01, *In re Best*, 195 USPQ 430, *In re Malagari*, 182 USPQ 549, *In re Titanium Metals Corporation of America v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *In re Woodruff*, 16 USPQ 2d 1934, and *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

6. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over references as applied to claims 1-4, 6-9, and 11-16 above, and further in view of JP 2001058286 (abstract).

7. The claimed subject matter as is disclosed and rejected above by the cited reference(s) except for P element. However, JP 2001058286 in the abstract teaches P content less or equal to 0.2 wt.% could be added as antioxidant element in the same field of endeavor or the analogous metallurgical art. Therefore, it would have been obvious to one having ordinary skill in the art of the cited references at the time the invention was made to provide Sn base solder with P element as taught by JP

2001058286 in order to improve antioxidant. It has been held that combining known ingredient having known functions, to provide a composition having the additive effect of each of the known functions is within realm of performance of ordinary skill artisan. In re Castner, 186 USPQ 213 (217). The use of conventional materials to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).

#### *Response to Arguments*

8. Applicant's arguments filed January 16, 2003 have been fully considered but they are not persuasive.
9. Applicants argue that the composition ranges of cited references are broader than the claimed range and not sufficient specificity to establish anticipation under 35 USC §102. But, as stated in In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), that "the disclosure in the prior art of any value within a claimed range is an anticipation of that range." Accordingly, a rejection under 35 USC § 102 may be applicable where the prior art discloses a value within a claimed range or where the claims and the prior art contain numerical ranges of components that touch, overlap, or are included within one another.
10. Applicants argue that the instant Tests 1-5 and Figures show the claimed

solder composition has unexpected results. However, unexpected results have not been shown by the examples in the instant specification Tests 1-5 and figures because which fail to compare the claimed subject matter with the closest prior art. In re Burckel, 201 USPQ 67, In re Baxter Travenol Labs., 952 F.2d 388, 392, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991), and In re De Blauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). Moreover, comparison must be done under identical condition except for the novel features of the invention. In re Brown, 173 USPQ 685 and In re Chapman, 148 USPQ 711. The showing of unexpected results must be occurred over the entire claimed range. In re Clemens, 622 F.2d 1029, 206 USPQ 289, 296 (CCPA 1980). The scope of the showing must be commensurate with the scope of the claims. In re Tiffin, 448 F.2d 791, 792 (Fed. Cir. 1971), In re Coleman, 205 USPQ 1172, In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983), and In re Greenfield, 197 USPQ 227. The Tests relied on by applicants and instant claims have failed to comply the criteria set forth by the courts. And all curves have same trends. Furthermore, the instant tests are done under control conditions which is found inconsistent with the instant open transitional expression "comprising".

*Conclusion*

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

*Examiner Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (703) 308-2542. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (703)-308-1146.

The facsimile phone number for this Art Unit 1742 are (703) 305-3601 (Official Paper only) and (703) 305-7719 (Unofficial Paper only). When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

  
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**SIKYIN IP**  
**PRIMARY EXAMINER**  
**ART UNIT 1742**

**S. Ip**  
March 21, 2003